Amendments to the Claims

Please amend the claims as indicated below:

1. (currently amended) A light source, comprising an evacuated container having a cylindrical shape, a diameter in the range of about 8-80 mm, and walls, at least a portion of which comprises an outer glass layer which on at least part thereof is coated on the inside with a layer of phosphor forming a luminescent layer, and a conductive layer forming an anode, which layer of phosphor is excited to luminescence by electron bombardment from a field emission cathode located in the interior of the container,

wherein the field emission cathode comprises an elongate wire-shaped carrier having a cylindrical surface and a first longitudinal axis, and

at least a portion of said cylindrical surface is provided with conductive surface irregularities in the form of carbon nanotubes, each having a second longitudinal axis being essentially perpendicular to the first longitudinal axis, and free ends of said nanotubes forming tips having a radial extension less than about 10 μm.

the container has a cylindrical shape and a diameter in the range 8-80 mm.

2. (previously presented) The light source according to claim 1, wherein the cylindrical surface has a diameter in the range of 0.5 - 5 mm.

3. (previously presented) The light source according to claim 1, wherein the elongate carrier is made of a conductive material.

4. (previously presented) The light source according to claim 1, wherein the elongate carrier is made of a semi-conductive material.

5. (previously presented) The light source according to claim 1, wherein the elongate carrier is made of an insulating material.

6. (canceled)

7. (previously presented) The light source according to claim 1, wherein the elongate carrier is coaxially arranged in the container.

8. (previously presented) The light source according to claim 1, wherein the elongate carrier is eccentrically arranged in the container.

9. (previously presented) The light source according to claim 1, wherein the elongate carrier has an essentially circular cross section.

10. (previously presented) The light source according to claim 1, wherein the elongate carrier has a non-circular cross section with a smooth curve.

11. (previously presented) The light source according to claim 1, wherein the elongate carrier comprises a wire.

12. (previously presented) The light source according to claim 1, wherein the elongate carrier comprises a rod.

13. (previously presented) The light source according to claim 1, wherein the tips have a radius of curvature being in the range 0.1-100 nanometers.

14. (previously presented) The light source according to claim 13, wherein said nanotubes are arranged on the carrier in the form of a deposited nanotube film.

15. (previously presented) The light source according to claim 1, wherein the tips are essentially uniformly distributed around the carrier.

16. (previously presented) The light source according to claim 1, wherein the luminescent layer is arranged between the glass layer and the anode, and the anode is made of a reflective material for reflection of the light emitted from the luminescent layer.

17. (previously presented) The light source according to claim 1, wherein the anode is arranged between the glass layer and the luminescent layer, and the anode is made of a transparent material.

18. (previously presented) The light source according to claim 1, wherein the phosphor layer is formed by a conductive phosphor and the phosphor layer also forms the anode.

19. (canceled)

20. (previously presented) The light source according to claim 1, wherein the container has the shape of a curved tube.

21. (currently amended) A field emission cathode ~~(40)~~, for use in a light source, and to be at least partially encompassed by an anode having a cylindrical shape and a diameter in the range of about 8-80 mm, and comprising an elongate electrically conductive element,

characterized in that said elongate electrically conductive element has the form of a cylindrical surface having a first longitudinal axis, and

at least a portion of said cylindrical surface being provided with conductive surface irregularities in the form of carbon nanotubes, each having a second longitudinal axis being essentially perpendicular to the first longitudinal axis, free ends of said nanotubes forming tips having a radial extension less than about 10 μm.

22. (previously presented) The field emission cathode according to claim 21, wherein the elongate wire-shaped carrier is made of a conductive material.

23. (previously presented) The field emission cathode according to claim 21, wherein the elongate wire-shaped carrier is made of a semi-conductive material.

24. (previously presented) The field emission cathode according to claim 21, wherein the elongate wire-shaped carrier is made of an insulating material.

25. (canceled)

26. (previously presented) The field emission cathode according to claim 21, wherein the elongate carrier has an essentially circular cross section.

27. (previously presented) The field emission cathode according to claim 21, wherein the elongate carrier has a non-circular cross section with a smooth curve.

28. (previously presented) The field emission cathode according to claim 21, wherein the elongate carrier comprises a wire.

29. (previously presented) The field emission cathode according to claim 21, wherein the elongate carrier comprises a rod.

30. (previously presented) The field emission cathode according to claim 21, wherein the tips have a radius of curvature being in the range 0.1-100 nanometers.

31. (previously presented) The field emission cathode according to claim 21, wherein said nanotubes are arranged on the carrier in the form of a deposited nanotube film.

32. (previously presented) The field emission cathode according to claim 21, wherein the tips are essentially uniformly distributed around the carrier.

33. (previously presented) A light source, comprising an evacuated container having walls, at least a portion of which comprises an outer glass structure which on at least part thereof is coated on the inside with a layer of phosphor forming a luminescent layer, and a conductive layer forming an anode, which layer of phosphor is excited to luminescence by electron bombardment from a field emission cathode located in the interior of the container,

wherein the field emission cathode comprises a carrier,
at least partly taking the form of a sphere, and

at least a portion of the surface of said sphere is provided with conductive surface irregularities in the form of carbon nanotubes, each having a longitudinal axis being essentially perpendicular to the surface of the carrier, the free ends of said nanotubes forming tips having a radial extension less than about 10 μm.

34. (previously presented) The light source according to claim 33, wherein said carrier is made of a conductive material.

35. (previously presented) The light source according to claim 33, wherein said carrier is made of a semi-conductive material.

36. (previously presented) The light source according to claim 33, wherein said carrier is made of an insulating material.

37. (previously presented) The light source according to claim 33, wherein the container at least partly takes the form of a sphere having a radius within the range of 1-10 cm.

38. (previously presented) The light source according to claim 33, wherein the carrier is arranged in the center of the container.

39. (previously presented) The light source according to claim 33, wherein the carrier is eccentrically arranged in the container.

40. (previously presented) The light source according to claim 33, wherein the tips have a radius of curvature being in the range 0.1 - 100 nanometers.

41. (previously presented) The light source according to claim 33, wherein the tips are essentially uniformly distributed on said portion and the surface of said sphere being provided with surface irregularities.

42. (previously presented) The light source according to claim 33, wherein the luminescent layer is arranged between the glass structure and the anode, and the anode is made of a reflective material for reflection of the light emitted from the luminescent layer.

43. (previously presented) The light source according to claim 33, wherein the anode is arranged between the glass structure and the luminescent layer, and the anode is made of a transparent material.

44. (previously presented) The light source according to claim 33, wherein the phosphor layer is formed by a conductive phosphor and the phosphor layer also forms the anode.

45. (previously presented) A field emission cathode, for use in a light source, and to be at least partially encompassed by an anode, and comprising conductive surface irregularities in the form of carbon nanotubes, each being provided on at least a portion of a carrier including a spherical surface and having a longitudinal axis being essentially perpendicular to the surface of the carrier, and the free ends of said nanotubes forming tips having a radial extension less that about 10 μm.

46. (previously presented) The field emission cathode according to claim 45, wherein said carrier is made of a conductive material.

47. (previously presented) The field emission cathode according to claim 45, wherein said carrier is made of a semi-conductive material.

48. (previously presented) The field emission cathode according to claim 45, wherein said carrier is made of an insulating material.

49. (previously presented) The field emission cathode according to claim 45, wherein the cathode is to be at least partially encompassed by an anode at least partly taking the form of a sphere having a radius within the range of 1-10 cm.

50. (previously presented) The field emission cathode according to claim 45, wherein the tips have a radius of curvature being in the range 0.1 - 100 nanometers.

51. (previously presented) The field emission cathode according to claim 45, wherein the tips are essentially uniformly distributed on said portion and the surface of said sphere being provided with surface irregularities.

52. (previously presented) The light source according to claim 20, wherein the shape of the curved tube is curved in a circular or semicircular curve.